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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,699	02/22/2002	Mitsutoshi Nakamura	15162/04300	1268
24367	7590	03/23/2005	EXAMINER	
SIDLEY AUSTIN BROWN & WOOD LLP			DI GRAZIO, JEANNE A	
717 NORTH HARWOOD			ART UNIT	
SUITE 3400			PAPER NUMBER	
DALLAS, TX 75201			2871	

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/081,699

Applicant(s)

NAKAMURA, MITSUTOSHI

Examiner

Jeanne A. Di Grazio

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) 3 and 10-21 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1, 2 and 4-9 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claims*

Claims 1, 2 and 4-9 remain pending per Response of December 28, 2004. Claim 1 has been amended per Response of December 28, 2004.

### *Election/Restrictions*

Applicant's election without traverse of Species A with claims 1, 2, and 4-9 readable thereon in Paper of December 28, 2004 is acknowledged.

Claims 3 and 10-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected Species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on December 28, 2004.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 (amended), 2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Application No. 2000-225772A (Aug. 15, 2000)(to Matsuda et al.).

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As to claim 1 (amended), Matsuda teaches and discloses a reversible recording medium having a cholesteric liquid crystal heat-sensitive recording layer and associated method (Title, entire application). The medium forms 'good and uniform recording images.' (Id.).

The application teaches "forming a white state by raising all or some areas of a heat-sensitive recording material to the temperature of isotropic phases" (Abstract)(Applicant's "a first heating process for heating the liquid crystal in a crystal phase to a first temperature that allows the liquid crystal to exhibit a cholesteric liquid crystal phase or an isotropic phase to form an image"), cooling the material for a cholesteric reflective color and then quenching the material in order to fix the color and then heating it again in order to crystallize part of it (Id.)(Applicant's "a second heating process for heating at least a part of the recording medium containing at least a part of an area to a second temperature, wherein said second temperature allows the area where the image has been formed by the first heating process to discolor or develop color without external pressure.").

Please note that Matsuda teaches multiple steps of heating, cooling and fixing of images.

As to claim 2, Applicant's method steps being the same as those of Matsuda, it may be presumed that the image is a visible image.

As to claim 4, Matsuda teaches the step of cooling after the first heating as noted.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application No. 2000-225772A (Aug. 15, 2000)(to Matsuda et al.).

As to claims 5-9, Matsuda includes the step of cooling. Matsuda may not appear to explicitly disclose that upon rapid cooling the liquid crystal exhibits a glass phase, a first heating to exhibit a glass phase, and specificities of the first and second temperatures.

However, as previously noted in the prior Office Action and per Applicant's Response to Election of Species in Paper of December 30, 2003, "it is respectfully asserted that one skilled in the art would appreciate that a heating process can include steps of heating and cooling." (Pages 3 and 4)(Remarks, December 30, 2003).

Therefore, in view of Applicant's Remarks and Matsuda, it would have been obvious to one of ordinary skill in the art of liquid crystals and recording media at the time the invention was made to include rapid cooling of the liquid crystal to exhibit a glass phase, a first heating to exhibit a glass phase, and specificities of the first and second temperatures as within the realm of knowledge of one skilled in the art as part of a heating process.

*Response to Arguments*

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeanne A. Di Grazio whose telephone number is (571) 272-2289.


The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeanne Andrea Di Grazio  
Patent Examiner  
Art Unit 2871

JDG

  
ROBERT H. KIM  
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